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EXAMINER	
SWEARINGEN, JEFFREY R	

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/895,233	CRADDOCK ET AL.	
	Examiner	Art Unit	
	Jeffrey R. Swearingen	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☒ Claim(s) *16 and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-30 have been examined.

Claim Objections

Claim 16 is objected to under 37 CFR 1.75(b), as it does not differ substantially from another previous claim and is unduly multiplied. Applicant is required to cancel the claim, or rewrite the claim in independent form. Claim 16 is a word for word copy of Claim 15, and therefore does not differ substantially from Claim 15.

Claim 27 is objected to because of the following informalities: Claim 27 refers to "eporting," which examiner believes is a typographical error concerning the word "reporting". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5, 8-13, 17, 20-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Shah et al. (U.S. Patent No. 6,694,361).

Pertaining to claim 1, Shah teaches a method comprising:

selecting a configuration of the physical element; [column 5, lines 48-49, where host-fabric initialization and configuration is considered selecting a configuration of the physical element]

probing a port, wherein the port is probed with a subnet management packet by a subnet manager; [column 7, lines 27-34]

in response to detecting a switch associated with the port, assigning a local identifier to the port resulting in a configuration change of the physical element. [column 8, lines 37-51, where "transition the ports through different states" is "a configuration change of the physical element"]

Pertaining to claim 5, Shah teaches

in response to determining an additional port associated with the switch, assigning a local identifier to the additional port. [column 11, lines 51-60]

Pertaining to claim 8, Shah teaches

connecting one or more operating system images to at least one host channel adapter. [column 6, lines 44-47, where "different systems" is "one or more operating system images"]

Pertaining to claim 9, Shah teaches

wherein the host channel adapter is a virtual host channel adapter. [column 6, lines 44-47, where "VI hardware" is "virtual host channel adapter". VI is defined as "Virtual Interface" at column 6, line 26]

Pertaining to claim 10, Shah teaches

A physical element [Figure 2, item 10'], comprising at least one switch [Figure 2, item 100']; and at least one host channel adapter functionally connected to the at least one switch [Figure 2, item 120].

Pertaining to claim 11, Shah teaches

wherein the at least one switch is at least one virtual switch [column 6, lines 44-45, where "VI hardware" is "virtual host channel adapter". VI is defined as "Virtual Interface" at column 6, line 26].

Pertaining to claim 12, Shah teaches

Wherein the at least one host channel adapter is at least one virtual channel adapter [column 6, lines 44-45, where "VI hardware" is "virtual host channel adapter". VI is defined as "Virtual Interface" at column 6, line 26].

Pertaining to claim 13, Shah teaches

a selection component for selecting a configuration of the physical element [column 5, lines 48-49, where host-fabric initialization and configuration is considered selecting a configuration of the physical element];

a probing component for probing a port, wherein the port is probed with a subnet management packet by a subnet manager [column 7, lines 27-34];

an assignment component, in response to detecting a switch associated with the port, for assigning a local identifier to the port resulting in a configuration change of the physical element [column 8, lines 37-51, where "transition the ports through different states" is "a configuration change of the physical element"].

Pertaining to claim 17, Shah teaches

the assignment component, in response to determining an additional port associated with the switch, assigns a local identifier to the additional port [column 11, lines 51-60].

Pertaining to claim 20, Shah teaches

a connection component for connecting one or more operating system images to at least one host channel adapter [column 6, lines 44-47, where "different systems" is "one or more operating system images"].

Pertaining to claim 21, Shah teaches

wherein the host channel adapter is a virtual host channel adapter [column 6, lines 44-45, where "VI hardware" is "virtual host channel adapter". VI is defined as "Virtual Interface" at column 6, line 26].

Pertaining to claim 22, Shah teaches

instructions for selecting a configuration of the physical element [column 5, lines 48-49, where host-fabric initialization and configuration is considered selecting a configuration of the physical element];

instructions for probing a port, wherein the port is probed with a subnet management packet by a subnet manager [column 7, lines 27-34];

instructions, in response to detecting a switch associated with the port, for assigning a local identifier to the port resulting in a configuration change of the physical element [column 8, lines 37-51, where "transition the ports through different states" is "a configuration change of the physical element"].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-4, 6-7, 14-16, 18-19, and 23-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shah as applied to claims 1, 13, and 22 above, and further in view of Bakke et al. (U.S. Patent No. 6,704,812).

Pertaining to claim 2, Shah teaches a method for end node partitioning as applied to claim 1. Shah fails to disclose selecting the configuration of the physical element includes a static selection of the physical element and a dynamic selection of the physical element.

Bakke teaches static assignment at initialization [selecting the configuration] of pathways [physical element]. [column 2, lines 6-10]. Bakke also teaches dynamic selection of the physical element [column 5, lines 24-29].

Motivation exists to statically and dynamically select physical elements without involving complications to the operating system of the host computer [Bakke, column 2, lines 42-44].

It is obvious to one of ordinary skill in the art to both statically and dynamically select physical elements as Bakke suggests with the end node partitioning method suggested by Shah.

Pertaining to claim 3, Shah and Bakke teach a method for end node partitioning as applied to claim 2. Shah fails to disclose in response to a static selection of the physical element, modifying the configuration of the physical element through at least one of a fabric initialization and a reboot of a node associated with the port.

Bakke teaches a state resetter that can reset [reboot] paths [nodes] into a state to accept the incoming commands/data. [column 5, lines 51-54].

Motivation exists to reboot nodes in the end node partitioning method so a failed path can be recovered for use [column 2, lines 40-42].

It is obvious to one of ordinary skill in the art to combine Bakke's ability to reboot paths with Shah and Bakke's method for end node partitioning with static and dynamic configuration.

Pertaining to claim 4, Shah and Bakke teach a method for end node partitioning as applied to claim 2. Shah fails to disclose in response to a dynamic selection of the physical element, modifying the configuration of the physical element through at least one of a fabric initialization and a reboot of a node associated with the port.

Bakke teaches a state resetter that can reset [reboot] paths [nodes] into a state to accept the incoming commands/data. [column 5, lines 51-54].

Motivation exists to reboot nodes in the end node partitioning method so a failed path can be recovered for use [column 2, lines 40-42].

It is obvious to one of ordinary skill in the art to combine Bakke's ability to reboot paths with Shah and Bakke's method for end node portioning with static and dynamic configuration.

Pertaining to claim 6, Shah teaches a method for end node partitioning as applied to claim 1. Shah fails to disclose in response to a host channel adapter and a host node becoming operational, reporting the host channel adapters and host processor node as they become operational.

Bakke teaches the ability to report the host channel adapters and host processor node as they become operational [column 5, lines 33-35 describe a redundancy manager with a detector of paths connected to the device, and column 5, lines 54-56 describe the detector's recovery notifier to allow failed links that have been recovered [or added] to be activated].

Motivation exists to report host channel adapters that have become operational to the end node partitioning method in order to adapt to new devices and new physical paths

without involving complications to the operating system of the host computer [Bakke, column 2, lines 42-44].

It is obvious to one of ordinary skill in the art to report host channel adapters that become operational to the method of end node partitioning suggested by Shah.

Pertaining to claim 7, Shah teaches a method for end node partitioning as applied to claim 1. Shah fails to disclose in response to removing a host channel adapter and a host node from operation, reporting the removal of the host channel adapter and the host node from operation.

Bakke teaches the ability to report the removal of host channel adapters and host processor node [column 5, lines 33-35 describe a redundancy manager with a detector of paths connected to the device, and column 5, lines 47-51 describe the detector's ability to notify the method if a path has failed [been removed]].

Motivation exists to notify the end node partitioning method of a failed link so the method can dynamically use alternate paths [Bakke, column 2, lines 39-42].

It is obvious to one of ordinary skill in the art to combine Bakke's ability to report the removal of a host channel adapter/node to the end node partitioning method suggested by Shah and Bakke.

Pertaining to claim 14, Shah teaches a method for end node partitioning as applied to claim 13. Shah fails to disclose selecting the configuration of the physical element includes a static selection of the physical element and a dynamic selection of the physical element.

Bakke teaches static assignment at initialization [selecting the configuration] of pathways [physical element]. [column 2, lines 6-10]. Bakke also teaches dynamic selection of the physical element [column 5, lines 24-29].

Motivation exists to statically and dynamically select physical elements without involving complications to the operating system of the host computer [Bakke, column 2, lines 42-44].

It is obvious to one of ordinary skill in the art to both statically and dynamically select physical elements as Bakke suggests with the end node partitioning method suggested by Shah.

Pertaining to claim 15, Shah and Bakke teach a method for end node partitioning as applied to claim 14. Shah fails to disclose in response to a static selection of the physical element, modifying the configuration of the physical element through at least one of a fabric initialization and a reboot of a node associated with the port.

Bakke teaches a state resetter that can reset [reboot] paths [nodes] into a state to accept the incoming commands/data. [column 5, lines 51-54].

Motivation exists to reboot nodes in the end node partitioning method so a failed path can be recovered for use [column 2, lines 40-42].

It is obvious to one of ordinary skill in the art to combine Bakke's ability to reboot paths with Shah and Bakke's method for end node partitioning with static and dynamic configuration.

Pertaining to claim 16, Shah and Bakke teach a method for end node partitioning as applied to claim 14. Shah fails to disclose in response to a dynamic selection of the physical element, modifying the configuration of the physical element through at least one of a fabric initialization and a reboot of a node associated with the port.

Bakke teaches a state resetter that can reset [reboot] paths [nodes] into a state to accept the incoming commands/data. [column 5, lines 51-54].

Motivation exists to reboot nodes in the end node partitioning method so a failed path can be recovered for use [column 2, lines 40-42].

It is obvious to one of ordinary skill in the art to combine Bakke's ability to reboot paths with Shah and Bakke's method for end node partitioning with static and dynamic configuration.

Pertaining to claim 18, Shah teaches a method for end node partitioning as applied to claim 13. Shah fails to disclose a reporting component, in response to a host channel adapter and a host node becoming operational, for reporting the host channel adapter and host processor node as they become operational.

Bakke teaches the ability to report the host channel adapters and host processor node as they become operational [column 5, lines 33-35 describe a redundancy manager with a detector of paths connected to the device, and column 5, lines 54-56 describe the detector's recovery notifier to allow failed links that have been recovered [or added] to be activated].

Motivation exists to report host channel adapters that have become operational to the end node partitioning method in order to adapt to new devices and new physical paths

without involving complications to the operating system of the host computer [Bakke, column 2, lines 42-44].

It is obvious to one of ordinary skill in the art to report host channel adapters that become operational to the method of end node partitioning suggested by Shah.

Pertaining to claim 19, Shah teaches a method for end node partitioning as applied to claim 13. Shah fails to disclose a reporting component, in response to removing a host channel adapter and a host node from operation, reporting the removal of the host channel adapter and the host node from operation.

Bakke teaches the ability to report the removal of host channel adapters and host processor node [column 5, lines 33-35 describe a redundancy manager with a detector of paths connected to the device, and column 5, lines 47-51 describe the detector's ability to notify the method if a path has failed [been removed]].

Motivation exists to notify the end node partitioning method of a failed link so the method can dynamically use alternate paths [Bakke, column 2, lines 39-42].

It is obvious to one of ordinary skill in the art to combine Bakke's ability to report the removal of a host channel adapter/node to the end node partitioning method suggested by Shah and Bakke.

Pertaining to claim 23, Shah teaches a computer program product for end node partitioning as applied to claim 13. Shah fails to disclose selecting the configuration of the physical element includes a static selection of the physical element and a dynamic selection of the physical element.

Bakke teaches static assignment at initialization [selecting the configuration] of pathways [physical element]. [column 2, lines 6-10]. Bakke also teaches dynamic selection of the physical element [column 5, lines 24-29].

Motivation exists to statically and dynamically select physical elements without involving complications to the operating system of the host computer [Bakke, column 2, lines 42-44].

It is obvious to one of ordinary skill in the art to both statically and dynamically select physical elements as Bakke suggests with the end node partitioning computer program product suggested by Shah.

Pertaining to claim 24, Shah and Bakke teach a computer program product for end node partitioning as applied to claim 23. Shah fails to disclose in response to a static selection of the physical element, modifying the configuration of the physical element through at least one of a fabric initialization and a reboot of a node associated with the port.

Bakke teaches a state resetter that can reset [reboot] paths [nodes] into a state to accept the incoming commands/data. [column 5, lines 51-54].

Motivation exists to reboot nodes in the end node partitioning method so a failed path can be recovered for use [column 2, lines 40-42].

It is obvious to one of ordinary skill in the art to combine Bakke's ability to reboot paths with Shah and Bakke's computer program product for end node partitioning with static and dynamic configuration.

Pertaining to claim 25, Shah and Bakke teach a computer program product for end node partitioning as applied to claim 23. Shah fails to disclose in response to a dynamic selection of the physical element, modifying the configuration of the physical element through at least one of a fabric initialization and a reboot of a node associated with the port.

Bakke teaches a state resetter that can reset [reboot] paths [nodes] into a state to accept the incoming commands/data. [column 5, lines 51-54].

Motivation exists to reboot nodes in the end node partitioning method so a failed path can be recovered for use [column 2, lines 40-42].

It is obvious to one of ordinary skill in the art to combine Bakke's ability to reboot paths with Shah and Bakke's computer program product for end node partitioning with static and dynamic configuration.

Pertaining to claim 26, Shah and Bakke teach a computer program product for end node partitioning as applied to claim 23. Bakke fails to disclose in response to determining an additional port associated with the switch, assigns a local identifier to the additional port.

Shah teaches the assignment component, in response to determining an additional port associated with the switch, assigns a local identifier to the additional port [column 11, lines 51-60].

Motivation exists to assign local identifiers to nodes partitioned in the computer program product in order to recover use of an additional port [Bakke, column 2, lines 41-42].

It is obvious to one of ordinary skill in the art to assign local identifiers to ports as shown in Shah to the computer program product taught by Shah and Bakke.

Pertaining to claim 27, Shah and Bakke teach a computer program product for end node partitioning as applied to claim 23. Shah fails to disclose instructions, in response to a host channel and a host node becoming operational, for eporting[sic] the host channel adapters and host processor node as they become operational.

Bakke teaches the ability to report the host channel adapters and host processor node as they become operational [column 5, lines 33-35 describe a redundancy manager with a detector of paths connected to the device, and column 5, lines 54-56 describe the detector's recovery notifier to allow failed links that have been recovered [or added] to be activated].

Motivation exists to report host channel adapters that have become operational to the end node partitioning computer program product in order to adapt to new devices and new physical paths without involving complications to the operating system of the host computer [Bakke, column 2, lines 42-44].

It is obvious to one of ordinary skill in the art to report host channel adapters that become operational to the computer program product of end node partitioning suggested by Shah and Bakke.

Pertaining to claim 28, Shah and Bakke teach a computer program product for end node partitioning as applied to claim 23. Bakke fails to disclose instructions, in respose to

removing a host channel adapter and a host node from operation, for reporting removal of the host channel adapter and the host node from operation.

Bakke teaches the ability to report the removal of host channel adapters and host processor node [column 5, lines 33-35 describe a redundancy manager with a detector of paths connected to the device, and column 5, lines 47-51 describe the detector's ability to notify the method if a path has failed [been removed]].

Motivation exists to notify the end node partitioning computer program product of a failed link so the computer program product can dynamically use alternate paths [Bakke, column 2, lines 39-42].

It is obvious to one of ordinary skill in the art to combine Bakke's ability to report the removal of a host channel adapter/node to the end node partitioning computer program product suggested by Shah and Bakke.

Pertaining to claim 29, Shah and Bakke teach a computer program product for end node partitioning as applied to claim 23. Bakke fails to disclose instructions for connecting one or more operating system images to at least one host channel adapter.

Shah teaches connecting one or more operating system images to at least one host channel adapter. [column 6, lines 44-47, where "different systems" is "one or more operating system images"]

Motivation exists for an end node partitioning product to support multiple systems as hardware and software are often used to support asynchronous data transfers between two memory regions, often on different systems [Shah, column 1, lines 21-23].

It is obvious to one of ordinary skill in the art to allow the computer program product suggested by Shah and Bakke to connect to different systems as suggested by Shah.

Pertaining to claim 30, Shah and Bakke teach a computer program product for end node partitioning as applied to claim 29. Bakke fails to disclose wherein the host channel adapter is a virtual host channel adapter.

Shah teaches wherein the host channel adapter is a virtual host channel adapter. [column 6, lines 44-47, where "VI hardware" is "virtual host channel adapter". VI is defined as "Virtual Interface" at column 6, line 26]

Motivation exists to use virtual host channel adapters with the end node partitioning computer program product in order to help manage external bus traffic that is becoming increasingly congested by utilizing devices with multiple ports. [Bakke, column 2, lines 1-6]

It is obvious to one of ordinary skill in the art to utilize Shah's virtual host channel adapter with the computer program product suggested by Shah and Bakke.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is 703-305-0449. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on 703-308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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